

What is claimed is:

1 ~~1.~~ A semiconductor memory card, storing:  
2 an audio sequence in which a plurality of audio objects  
3 are arranged; and  
4 resume information showing a resume position for use  
5 when playback of the audio sequence resumes midway through  
6 the audio sequence.

1 2. A semiconductor memory card in accordance with Claim  
2 1,  
3 wherein the resume information includes at least one  
4 of type 1 position information and type 2 position  
5 information,  
6 the type 1 position information showing a type 1 resume  
7 position set according to a user operation, and  
8 the type 2 position information showing a type 2 resume  
9 position that was automatically set when playback of the  
10 audio sequence last stopped.

1 3. A semiconductor memory card in accordance with Claim  
2 2,  
3 wherein each audio object in the audio sequence has  
4 been provided with unique identification information,  
5 the type 1 position information showing the type 1

6 resume position using the identification information of  
7 one of the audio objects, and

8 the type 2 position information showing the type 2  
9 resume position using the identification information of  
10 one of the audio objects and time information showing an  
11 offset from a start of the one of the audio objects to the  
12 type 2 resume position.

1 4. A semiconductor memory card in accordance with Claim  
2 3, further storing:

3 at least one piece of playback route information, each  
4 of which defines a playback route by including the  
5 identification information of at least one audio object  
6 and a playback position of each of the at least one audio  
7 object in the playback route;

8 the resume information further including specifying  
9 information that specifies one piece of playback route  
10 information,

11 the type 1 position information and type 2 position  
12 information respectively showing the type 1 resume position  
13 and the type 2 resume position for the audio sequence using  
14 the identification information of an audio object in the  
15 specified piece of playback route information.

1 5. A semiconductor memory card in accordance with Claim

2 4, further storing a piece of supplementary resume  
3 information corresponding to each piece of playback route  
4 information,

5 each piece of supplementary resume information  
6 including position information showing a position in an  
7 audio object from which playback should start when audio  
8 objects are to be played back in accordance with the  
9 corresponding piece of playback route information,

10 the position information in the resume  
11 information showing, as the resume position, a position  
12 and an audio object that are indicated in one of the pieces  
13 of supplementary resume information.

1 6. A semiconductor memory card in accordance with Claim  
2 5,

3 wherein a first value is set in each piece of  
4 supplementary resume information when playback is complete  
5 for all audio objects whose identification information is  
6 indicated by the corresponding piece of playback route  
7 information, and

8 a second value is set in each piece of  
9 supplementary resume information when playback is not  
10 complete for all audio objects whose identification  
11 information is indicated by the corresponding piece of  
12 playback route information.

1 7. A playback apparatus for a semiconductor memory card  
2 that stores (1) an audio sequence in which a plurality of  
3 audio objects are arranged and (2) resume information  
4 showing a resume position for use when playback of the audio  
5 sequence resumes midway through the audio sequence,

6 the playback apparatus comprising:

7 receiving means capable of receiving, from a user,  
8 a first playback operation specifying one of the audio  
9 objects and a second playback operation that does not specify  
10 any of the audio objects; and

11 playback means

12 for playing back the specified audio object when  
13 the receiving means has received the first playback  
14 operation, and

15 for reading the resume information from  
16 the semiconductor memory card and playing back the audio  
17 sequence starting from the resume position shown by the  
18 resume information when the receiving means has received  
19 the second playback operation.

1 8. The playback apparatus of Claim 7,

2 wherein the resume information shows the resume  
3 position using identification information for one of the  
4 audio objects in the audio sequence and time information

5 showing an offset from the start of the one of the audio  
6 objects to the resume position, and  
7 when the receiving means has received the second  
8 playback operation, the playback means starts to playback  
9 the audio sequence from a midway point, which is indicated  
10 by the time information, in the audio object indicated by  
11 the identification information provided in the resume  
12 information.

1 9. A playback apparatus for a semiconductor memory card  
2 that stores (1) an audio sequence including a plurality  
3 of audio objects and (2) resume information showing a resume  
4 position that has been specified by a user operation,  
5 the playback apparatus comprising:  
6 loading means for loading the semiconductor memory  
7 card;  
8 judging means for judging whether second resume  
9 information has been correctly written onto the  
10 semiconductor memory card loaded by the loading means, the  
11 second resume information showing a resume position and  
12 being automatically set when playback is stopped; and  
13 playback means  
14 for playing back the audio sequence in accordance  
15 with the second resume information when the second resume  
16 information has been correctly written on the semiconductor

17 memory card and  
18 for reading the first resume information  
19 from the semiconductor memory card and playing back the  
20 audio sequence in accordance with the first resume  
21 information when the second resume information has not been  
22 correctly written on the semiconductor memory card.

1 10. A playback apparatus according to Claim 9, further  
2 comprising a storage means for storing a flag indicating  
3 which of the first resume information and the second resume  
4 information should be used for playback,  
5 wherein when the flag indicates the first resume  
6 information, the playback means plays back the audio  
7 sequence in accordance with the first resume information  
8 regardless of whether the second resume information has  
9 been correctly written on the semiconductor memory card.

1 11. A playback apparatus according to Claim 10, further  
2 comprising:

3 a receiving means for receiving, from a user, an  
4 operation that indicates which of the first resume  
5 information and the second resume information should be  
6 used; and

7 setting means for setting the flag in the storage  
8 means in accordance with the operation received by the

9 receiving means.

1 12. A recording apparatus for a semiconductor memory card,  
2 comprising:

3 receiving means for receiving an operation made by  
4 a user;

5 playback means for playing back audio objects included  
6 in an audio sequence when the received operation is a playback  
7 operation; and

8 recording means

9 for specifying, when the received operation is  
10 a stop operation, a resume position from a playback position  
11 where the user made the stop operation, the resume position  
12 showing where playback of the audio sequence should be  
13 resumed, and

14 for recording resume information showing  
15 the resume position onto the semiconductor memory card.

1 13. A computer-readable storage medium storing a program  
2 that has a computer execute a playback procedure for a  
3 semiconductor memory card, the semiconductor memory card  
4 storing (1) an audio sequence in which a plurality of audio  
5 objects are arranged and (2) resume information showing  
6 a resume position for use when playback of the audio sequence  
7 resumes midway through the audio sequence,

8 the program comprising:  
9 a receiving step capable of receiving, from a user,  
10 a first playback operation specifying one of the audio  
11 objects and a second playback operation that does not specify  
12 any of the audio objects; and  
13 a playback step  
14 for playing back the specified audio object when  
15 the receiving step has received the first playback operation,  
16 and  
17 for reading the resume information from  
18 the semiconductor memory card and playing back the audio  
19 sequence starting from the resume position shown by the  
20 resume information when the receiving step has received  
21 the second playback operation.

1 14. A computer-readable storage medium according to Claim  
2 13,

3 wherein the resume information shows the resume  
4 position using identification information for one of the  
5 audio objects in the audio sequence and time information  
6 showing an offset from the start of the one of the audio  
7 objects to the resume position, and

8 when the receiving step has received the second  
9 playback operation, the playback step starts to playback  
10 the audio sequence from a midway point, which is indicated



11 by the time information, in the audio object indicated by  
12 the identification information provided in the resume  
13 information.

1 15. A computer-readable storage medium storing a program  
2 that has a computer execute a playback procedure for a  
3 semiconductor memory card, the semiconductor memory card  
4 storing (1) an audio sequence in which a plurality of audio  
5 objects are arranged and (2) resume information showing  
6 a resume position for use when playback of the audio sequence  
7 resumes midway through the audio sequence,

8 the program comprising:

9 a loading step for loading the semiconductor memory  
10 card;

11 a judging step for judging whether second resume  
12 information has been correctly written onto the  
13 semiconductor memory card loaded by the loading step, the  
14 second resume information showing a resume position and  
15 being automatically set when playback is stopped; and

16 a playback step

17 for playing back the audio sequence in accordance  
18 with the second resume information when the second resume  
19 information has been correctly written on the semiconductor  
20 memory card and

21 for reading the first resume information

22 from the semiconductor memory card and playing back the  
23 audio sequence in accordance with the first resume  
24 information when the second resume information has not been  
25 correctly written on the semiconductor memory card.

1 16. A computer-readable storage medium according to Claim  
2 15,

3 wherein the computer includes a storage means for  
4 storing a flag indicating which of the first resume  
5 information and the second resume information should be  
6 used for playback,

7 wherein when the flag indicates the first resume  
8 information, the playback step plays back the audio sequence  
9 in accordance with the first resume information regardless  
10 of whether the second resume information has been correctly  
11 written on the semiconductor memory card.

1 17. A computer-readable storage medium according to Claim  
2 16,

3 wherein the program further comprises:

4 a receiving step for receiving, from a user, an  
5 operation that indicates which of the first resume  
6 information and the second resume information should be  
7 used; and

8 a setting step for setting the flag in the storage

9 means in accordance with the operation received by the  
10 receiving step.

1 ~~18~~. A computer-readable storage medium storing a program  
2 that has a computer execute a recording procedure for a  
3 semiconductor memory card,

4 the program comprising:

5 a receiving step for receiving an operation made by  
6 a user;

7 a playback step for playing back audio objects included  
8 in an audio sequence when the received operation is a playback  
9 operation; and

10 a recording step

11 for specifying, when the received operation is  
12 a stop operation, a resume position from a playback position  
13 where the user made the stop operation, the resume position  
14 showing where playback of the audio sequence should be  
15 resumed, and

16 for recording resume information showing  
17 the resume position onto the semiconductor memory card.

1 ~~19~~. A playback method for a semiconductor memory card that  
2 stores (1) an audio sequence in which a plurality of audio  
3 objects are arranged and (2) resume information showing  
4 a resume position for use when playback of the audio sequence

5 resumes midway through the audio sequence,  
6 the playback method comprising:  
7 a receiving step capable of receiving, from a user,  
8 a first playback operation specifying one of the audio  
9 objects and a second playback operation that does not specify  
10 any of the audio objects; and  
11 a playback step  
12 for playing back the specified audio object when  
13 the receiving means has received the first playback  
14 operation, and  
15 for reading the resume information from  
16 the semiconductor memory card and playing back the audio  
17 sequence starting from the resume position shown by the  
18 resume information when the receiving means has received  
19 the second playback operation.

1 20. A playback method according to Claim 19,  
2 wherein the resume information shows the resume  
3 position using identification information for one of the  
4 audio objects in the audio sequence and time information  
5 showing an offset from the start of the one of the audio  
6 objects to the resume position, and  
7 when the receiving step has received the second  
8 playback operation, the playback step starts to playback  
9 the audio sequence from a midway point, which is indicated

10 by the time information, in the audio object indicated by  
11 the identification information provided in the resume  
12 information.

1 ~~21.~~ A playback method for a playback apparatus that uses  
2 a semiconductor memory card storing (1) an audio sequence  
3 including a plurality of audio objects and (2) resume  
4 information showing a resume position that has been  
5 specified by a user operation,

6 the playback method comprising:

7 a loading step for loading the semiconductor memory  
8 card;

9 a judging step for judging whether second resume  
10 information has been correctly written onto the  
11 semiconductor memory card loaded by the loading step, the  
12 second resume information showing a resume position and  
13 being automatically set when playback is stopped; and

14 a playback step

15 for playing back the audio sequence in accordance  
16 with the second resume information when the second resume  
17 information has been correctly written on the semiconductor  
18 memory card and

19 for reading the first resume information  
20 from the semiconductor memory card and playing back the  
21 audio sequence in accordance with the first resume

22 information when the second resume information has not been  
23 correctly written on the semiconductor memory card.

1 22. A playback method according to Claim 21,  
2 wherein the reproduction apparatus includes a storage  
3 unit for storing a flag indicating which of the first resume  
4 information and the second resume information should be  
5 used for playback,

6 wherein when the flag indicates the first resume  
7 information, the playback step plays back the audio sequence  
8 in accordance with the first resume information regardless  
9 of whether the second resume information has been correctly  
10 written on the semiconductor memory card.

1 23. A recording method for a semiconductor memory card,  
2 comprising:

3 a receiving step for receiving an operation made by  
4 a user;

5 a playback step for playing back audio objects  
6 included in an audio sequence when the received operation  
7 is a playback operation; and

8 a recording step

9 for specifying, when the received operation is  
10 a stop operation, a resume position from a playback position  
11 where the user made the stop operation, the resume position

12 showing where playback of the audio sequence should be  
13 resumed, and  
14 for recording resume information showing the  
15 resume position onto the semiconductor memory card.